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To: William T. Cross
Public Safety and Critical Infrastructure Division
Wireless Telecommunications Bureau

From: Carnita McKeithen

Re: Comment on proposed amendment to WT Docket No. 05-235; FCC 05-143.

I would like to offer my views, as a third year law student against the elimination of the Morse code requirement, in response to the FCC's desire for public comments on it's proposed amendment of the amateur service rules WT Docket No. 05-235; FCC 05-143.

There has been some opposition to the proposed amendment from the eighteen petitioners who were lead by the AARL, in its effort to have the FCC to upgrade Technician licenses to General licenses and Advanced licensees to Amateur Extra licensee. The proposed bill would also eliminate the requirement of passing the Morse code examination.

The largest group of petitioners requested the FCC eliminate all proficiency testing requirements from the Commission's amateur radio operator license examination rules.[1] A few of the petitioners argue that the Morse code requirement is out-of- date. The premises of the arguments are based on the acknowledgement of the emergence of more technical forms of communications. More specifically, it has

[1] *See* Coppola Petition at 1; Holliday Petition at 1; Ward Petition at 1;NCI Petition at 1; NCVEC I at 1; Speroni Petition at 1,4; Rightsell-Kholer Petition at 8. The Speroni and Rightsell-Kholer petitions were placed on public notice on October 7, 2003. *See Public Notice*, Report No. 2634 (rel. Oct. 7, 2003).

been argued the use of the Morse code requirement is no longer useful in our day and age, because of the more advance forms of communications. However, the argument does not mention the benefits of having a form of communication that does not require use's become proficient in the use of advanced technology. For instance, hurricanes Katrina, Rita, and Wilma, caused devastation that rendered advanced technology useless. It is for this reason that I disagree with the FCC's proposal to eliminate the Morse code requirement.

ASSISTANCE IN DISASTER RELIEF

Morse code, the first electrical technology used for transmission and reception of code-borne information over long distances, was developed in the United States in the 1830s. The systemized methods of Morse code and resultant telegraphy practices have affected world communication in both large and subtle ways.

The history of amateur radio has been riddled with the policies of public service. Times of heightened national security, and the remarkable total failure of high tech communications following Hurricanes Katrina and Rita should be of great interest to the Wireless Telecommunications Bureau. The use of telegraphic communication has proven to be an unparalleled service to humanity; in times of great emergency Morse code communication has carried on when all others have failed. There have been numerous occasions where the amateur radio operators have been instrumental in assisting those who were in crisis situations. Following disasters, amateur radio operators take an active roll in helping when there is damage to regular lines of communications due to power outages, destruction of phone services. The fact that

Morse code provides a simple and effective means of communication in times of emergency when voice or computer based equipment may be unavailable or inoperable is reason alone to retain the requirement. Since the Amateur Radio service is a key participator in emergency response, it would be absurd to almost certainly diminish its communication capabilities simply because some feel that Morse code is outdated--or too difficult to learn.

I concede that most emergency communication today is performed using more complex tech resources. Voice, data, video and digital communication are frequently used because the information can be transferred and, or exchanged at a speed much faster than Morse code transmission. However, the high tech forms of communication in recent months have proven to be less than reliable in times of disaster.

IS MORSE CODE OUTDATED?

Those who feel that the art of Morse code is an antiquated communication lose sight of its need. Imagine if you will the victims of Hurricane Katrina: people standing on roof tops with cordless phones, whose connection has been lost because of the uprooting of the telephone poles, people frantically shaking a cell phone because the tower is down and the service is not accessible. The Morse code, the communication which connected a radio operator with the proper authorities to send help to these destitute individuals, seems to be more about saving persons than it is about being old fashioned. These catastrophic natural weather events, not only highlight the utter dependence on high tech communication, but also the lack of

reliability of these higher tech tools for consistent and necessary communications. Morse code succeeds where digital and voice communications fail.

If the amendment passes based on the argument that Morse code is not as fast as digital or other forms of communications, we may then be seeking to get rid of books because the information can be stored in a smaller space and for less cost. Salvaging an art of nearly two centuries of mastery is not an example of nostalgia against logic but a preservation of history and more importantly the lives of persons in tragic situations. Out dated does not equal dysfunctional.

HINDRANCE TO PARTICIPATION

The Morse code requirement is seen as a hindrance to many who would otherwise want to fully participate in Amateur radio. However, there is no guarantee that if this requirement is eliminated there will be a great influx of willing and eager participants to the Amateur radio. Those who argue against retaining the requirement believe removing the requirement opens the door to more applicants, and it aligns the U.S. with the international community. Yet, the argument is solely based on keeping the driving force of people who are interested in amateur radio flourishing. I submit to those in opposition, what will be added to a hobby of those who oppose the retention of the telegraphy test when these expected participants are not truly dedicated or invested in the growth of the Amateur radio world. By keeping the Morse code examination requirement it will likely increase the quality of the current operators and those join the Amateur Radio world.

The resounding argument that the Morse code requirement is the reason people are deterred from joining is not completely without merit. However, the reasons for a lack of growth in the Amateur Radio Service involve issues of visibility, media presence, and the lack of a systematic approach to member recruitment and retention.

FILTERING

The 5 wpm telegraphy examination encourages operators entering the hobby/service to spend the time and dedication to further the radio art. The only other viable option to ensure the hobby continues to provide skilled and dedicated operators would be to make the written tests more useful. For instance, the FCC should use testing materials that require written answers and deter the use of study materials that provide the exact answers, and therefore cannot be merely memorized. Current testing has been remarked to be far too easy to obtain an amateur license.[2] This is a hobby. Thus, there will be persons who will not be suitable participants to enter the hobby. Like any other hobby, there should be some requirements, some discipline, some learning required to fully appreciate the endeavor. Amateur Radio is no different. Efforts to revive amateur radio should not be about the numbers, but about providing quality operators with all the skills needed to provide communications in less than optimal conditions. Retaining the Morse code requirement requires minimal discipline and effort to enter the hobby.

[2] http://www.arrl.org/news/stories/2003/01/31/4/?nc=1

I find the argument that a written test for all levels is appropriate and secures the assurance the applicant has the required knowledge to operate at the level of testing, lacking support. The written examination is not one where the test taker is asked to apply the material learned, it merely asks for a regurgitation of the material reviewed. Anyone can memorize the written test answers with due diligence, but the Morse code test, even at 5-wpm, defines a serious applicant. The purpose of learning is for an individual to construct his or her own meaning/understanding, not just memorize the "right" answers and regurgitate someone else's meaning. Since education is inherently interdisciplinary, the only valuable way to measure learning is to make the assessment part of the learning process, ensuring it provides the test taker with information on the quality of their learning.

From the material I have read the basis for keeping Morse code was once argued to differentiate CB users from Amateur radio operators.

BANDWITH EFFICIENCY

The repeal of the Morse code requirement is not in the best interest of the amateur radio community nor the crowded HF bands. One of the areas where Morse code is clearly superior to most other modes is bandwidth efficiency. CW can achieve a similar QSO rate to phone while accepting a channel spacing of 250 Hz or less, compared with the 2500 Hz minimum required by phone.[3] This means that the QSO rate per Hertz of bandwidth occupied is at least ten times greater for CW than it is for phone. The only other mode that can compete with this remarkable efficiency is PSK-

[3] http://www.packetradio.com/bbbb.htm

31. Bandwidth efficiency is especially important in the amateur service given our limited amateur allocations.

Any signal conveying intelligence will occupy some bandwidth. A CW signal by virtue of it's simple low speed on/off nature takes up minimal spectrum space compared to a complex voice waveform that can be fit in many more CW signals in the same space and filter out adjacent channel interference much more effectively too. Despite commercial interests the amateur radio would benefit from the continued requirement of the telegraphy examination.

WHY KEEP THE MORSE CODE REQUIREMENT?

The requirement should be kept for several reasons: Morse code equipment is so easy to construct and operate, it has the capability to get messages through when other modes fail, it is universally understood by operators in all countries. The governing bodies that make the international rules for Amateur radio have wisely decided that Morse code should be a continuing part of the Amateur radio system. Morse code may no longer be as vital as it once was, but it is a method that can always allow the process of communication to be achieved.